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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,509	09/03/2003	Thilaka S. Sumanaweera	2003P09377US	4955
<div>7590 09/11/2007 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830</div>			<div>EXAMINER JAWORSKI, FRANCIS J</div> <div>ART UNIT 3768 PAPER NUMBER</div> <div>MAIL DATE 09/11/2007 DELIVERY MODE PAPER</div>	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/654,509

Applicant(s)

SUMANAWEERA ET AL.

Examiner

Jaworski Francis J.

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4 – 5, 10 - 11 as amended are rejected under 35 U.S.C. 102(a) as being obvious over McMorrow et al (US6569097), further in view of (a) Wood et al (US5715823) or (b) Samara et al (US6718192) alone or further in view of Mullen (US6120447), or Souney et al (US6478740). McMorrow et al as earlier noted teaches a method of acquiring ultrasound data at a first location (DCD or data collection device) with transmission to a second location remote therefrom for application-specific processing such as automatically processing ultrasound bladder volume image data

for quantification as a bladder volume result , and receiving the processed results at a DCD location such as the source imager location. Whereas in McMorrow et al the raw, pre-detected ultrasound data is forwarded, it would have been obvious in view of Wood et al to utilize a complete ultrasound imaging system designated as 10 to send completed images and/or reports forward to the remote PC shown generally at 100 – 110 in Fig. 1 in this basic two-point illustration, since the imagines system may be configured to include a webserver portion for forwarding data and handling remote queries.. Since the ultrasound acquisition is complete per col. 2-3 bridging, discussion of providing images in raster form, it is argued to be inherently obvious to use conventional detection and scan conversion to rasterize the video image which effectively meets step a) providing a listing of all common ultrasound image modalities.. Since after internet transmission to the PC at the remote site i.e. step (b), the report is edited per col. 10 lines 19 – 37 and forwarded to an additional remote location this fulfills step c). Additionally the technician interaction described in col. 10 lower half also constitutes interactive 'remote assistance' in back-dialog with the ultrasound system user, in the course of which 'processed data' responsive to the viewed image is sent back to the user . Additionally per cols. 11 – 12 bridging passage, the Doppler and 2D/3D (B-mode) can be interactively executed, again a circumstance where remote assistance necessarily involves medical not technical 'processed data' since ultimately the Web is a data link in processed formats if nothing else. The col. 12 – 13 disclosure would indicate that medical remote assistance would be forwarded to second differing locations other than 30 in a hub architecture per Figs. 15 – 17.

In the alternative, it would have been obvious in view of Samara et al to perform advanced processing including filtering/quantification associated with view rendering algorithms on 2D images via at least a (campus) Ethernet link since this permits a computationally intensive process to be handled remote from the forwarding imager. Large hospitals as so-linked would be understood to include differing facilities and overlaps into the scope being described in specification para [0017] . In any case Mullen commonly assigned with the former appears in its col. 2 top portion to extend the definition of a LAN/Ethernet connection to include what could reasonably be construed as a separate facility Hub and peripheral organization.

In the alternative still, it would have been obvious in view of Souney et al to enhance McMorrow as per a complete satellite ultrasound imaging unit since this allows back-transmission of a processed image to the remotely located field site, see col. 2 entries g) and l).

Since the McMorrow et al data is digitized and stored into memory prior to remote transmission it has necessarily been detected, there being no further limitation such as demodulation of a carrier or other degree of processing to be inferred.

Claims 2, 6 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over McMorrow et al in view of the secondary teaching alternatives a) – c) as applied to claim 1 above, and further in view of Zulauf (US5482043 since the latter evidences that remote or telemedical processing of ultrasound images would include as

a processed result an interpretation of the image data at the remote site, whereupon the processed data would comprise the interpretation as the user input into a report.

Claims 3, 8 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over McMorrow et al in view of the secondary reference alternatives a) – c) as applied to claim 1 above, and further in view of Hossack et al (US6201900) insofar as the latter in the Cols. 22 – 23 bridging passage evidences that motion estimation and its attendant filtering would be one form of remote application-specific processing on the image data set including use of the second harmonic for motion estimating as elsewhere noted therein.

Claims 7 – 9 and 11 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over McMorrow et al ('097) in view of the secondary reference alternatives a) – c) as applied to claim 1 above, and further in view of McMorrow et al (US6905468) since the latter poses that for the abdominal aneurysm case mentioned in the former, the image volume data of Doppler or B-scan type can be transmitted remotely for aortic diameter quantification or volume rendering with transmission back to e.g. emergency personnel during the imaging session.

Claim 12 as amended is rejected under 35 U.S.C. 103(a) as being unpatentable over McMorrow et al ('097) in view of the secondary reference alternatives a) – c) as applied to claim 1 above, and further in view of Mullen et al (US6224551) since the latter evidences that where image data is transferred back and forth across a network such as the internet, password encryption is desirable to insure security, see claim 2 of the latter.


***Response to Arguments***

The claims in their amended scope require further that some degree of detection for example demodulation detection post beamformation and/or scan conversion of the ultrasound received signal data be occurring however the art makes clear that such would occur in the case of bi-directional communication regarding medical or service functions of a complete imager, or in relation to further graphics processing such as 3D rendering done at least quasi-remotely, or in the circumstance where the ultrasound imager is made a satellite device and the remote imager portion serves as a wireless base for both a resident physician and at least some further image processing.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

092606

  
Francis J. Jaworski  
Primary Examiner